Genetic Stock Structure of Pacific Cod *(Gadus macrocephalus)*

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Many fish species are divided into essentially self-recruiting populations or stocks. The identification of such stocks is one of the prerequisites of successful management, as differences in recruitment, growth or mortality may necessitate separate management and conservation strategies. The Pacific cod (Gadus macrocephalus) has become an important targeted fishery in U.S. waters since the mid-1980s, and is second only to walleye pollock in commercial landings - yet very little is know about population subdivision in the Northern Pacific. Here, we use highly variable genetic markers (microsatellites) to evaluate the population structure of Pacific cod across large and small geographic scales in the Northeast Pacific. The area of interest extends from Puget Sound to the Aleutian Islands, where cod is harvested in localized fisheries managed under both state and federal plans. The temporal component of this structuring is examined in some locations across multiple sampling years and age classes, thus testing the predictive power of the results. In addition, we will screen for variation at the pantophysin (Pan I) locus, a gene under natural selection in other gadoid species. Contrasting patterns of variation for microsatellites and Pan I will provide greater resolution of stock components within the Pacific cod metapopulation.